Focused Australian Mineral Exploration Company



### MINING LIMITED ASX Code: TLM





#### 20th October 2015

#### **COMPANY SNAPSHOT**

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#### **Capital Structure**

Shares on Issue: 148,559,904 (TLM)

**Options on Issue:** 6,400,000 (Unlisted)

ASX: TLM



# **Narrow Zones of Massive Sulphides Intersected in First Drill Hole at Sinclair**

Multiple zones including up to 1.4m of massive, matrix and breccia sulphides intersected at Delphi North prospect

### Highlights

- Talisman's maiden diamond drill hole, SND001, located at the Delphi North Prospect, 4km south of the Sinclair nickel mine, has intersected a number of massive nickel sulphide horizons including:
  - 1.4 metres of massive, matrix and breccia sulphides within a 2.2 metre 0 interval from 396.9 metres down-hole (true width not known at this time; top of the intersection is approximately 348 metres below surface); and
    - 0.5 metres of matrix sulphides from 419.5 metres down-hole (true width not known at this time; top of the intersection is approximately 367 metres below surface).



Photograph of massive sulphides in drill core from drill hole SND001

- Drilling of SND001 is currently continuing as part of Talisman's recently commenced maiden exploration drill program at the Sinclair Nickel Project.
- To date, eight RC pre-collars have been completed out of a planned total of 12 drill holes. Each RC pre-collar hole is planned to have a diamond drill tail.
- This exploration drill program plans to drill test seven priority exploration targets at three prospects within the Sinclair Nickel Project (see Appendix 1). These targets were identified following a regional targeting exercise undertaken by ex-Jubilee Mines nickel exploration geologists:
  - Delphi Prospect (3 targets); 0
  - Fly Bore Prospect (3 targets); and 0
  - Cody Well Prospect (1 target). 0





Talisman Mining Limited (ASX: **TLM**) is pleased to advise that the first diamond exploration drill-hole currently underway at the **Delphi North Prospect**, located approximately 4km south of the Sinclair nickel mine at its 100%-owned **Sinclair Nickel Project** in WA (*see Appendix 1*), has intersected massive sulphides in multiple narrow intervals (*see Table 2*).



The priority target at **Delphi North** (see *Figures 1 & 2, plus Appendix 1*) comprises two refined historical downhole electromagnetic (DHEM) anomalies, plus a newly identified moving loop electromagnetic (MLEM) anomaly identified from the recent MLEM surface survey conducted by Talisman.

Figure 1: Delphi Prospect interpretive plan showing a close up of the Delphi North Prospect & SND001

Narrow massive nickel sulphide intersections from historical drilling including 0.44 metres at 5.43% Ni and 0.32 metres at 2.99% Ni are also located in the vicinity.

Three drill holes are currently planned at this prospect.

The first diamond drill hole, **SND001**, which was designed to intersect the new MLEM anomaly (see *Figure 2*) has intersected a number of massive, matrix and breccia sulphide horizons in a deformed sequence of host ultramafic and basaltic rock units (see *Table 2*).

The main sulphide intersection within the hole is represented by a total of 1.4 metres of massive, matrix and breccia sulphides within a 2.2 metre interval with narrow zones of strongly foliated basaltic

rocks from 396.9 metres – 399.1 metres down-hole (*true width not known at this time*). The vertical depth of this intersection is approximately 348 metres below surface.

Visual inspection of the drill core by experienced nickel sulphide geologists indicates that the sulphides within this interval contain dominantly pyrrhotite with moderate amounts of pentlandite and minor accessory pyrite and chalcopyrite, similar to the massive sulphides intersected historically at the Sinclair nickel deposit.

The second zone of sulphide mineralisation comprises **0.5 metres of matrix-style sulphide mineralisation** between 419.5 metres – 420.0 metres down-hole **within a broader zone of disseminated, stringer and blebby sulphide mineralisation** between 413.8 metres and 420.4 metres down-hole (*true width not known at this time*). The top of this intersection is approximately 367 metres vertically below surface.

Talisman is very encouraged by these intersections of massive, matrix and breccia-style sulphide mineralisation in its maiden drill program at Delphi North which, together with the significant historical intersections in the area, represents a mineralised horizon extending for more than 600 metres of interpreted strike length.



Figure 2: Interpretive longitudinal section of the Delphi Prospect (looking west) showing priority surface and down hole geophysical EM anomalies and planned drilling. Also shown is historical drilling and significant mineralised intersections.

Drill core from SND001 will be cut, sampled and dispatched for laboratory analysis in order to determine the nickel grades within the sulphide intersections.

#### **Next Steps**

On completion of SND001, the hole will be cased with PVC to facilitate a down-hole electromagnetic (DHEM) survey.

At this stage, the DHEM survey of SND001 will be conducted at the completion of the current exploration drill program, as part of a wider series of DHEM surveys across the exploration targets.

The survey of SND001 will be conducted with a view to providing target vectors towards potentially thicker accumulations of massive nickel sulphides in the Delphi North area.

Two further drill holes are planned at Delphi North to test two historical DHEM plates.

These DHEM anomalies are located approximately 100 metres and 200 metres along strike to the south from the intersection in SND001 (*see Figure 2 – Delphi long section*).

In total, the maiden exploration drilling program at Sinclair is planned to comprise 12 drill holes for approximately 3,900 metres of reverse circulation (RC) pre-collars and diamond tails to provide an initial test of seven exploration targets at three prospects (see ASX Announcement 30 September 2015).

#### ENDS

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#### **Competent Persons' Statement**

Information in this ASX release that relates to Exploration Results is based on information compiled by Mr Graham Leaver, who is a member of the Australasian Institute of Geoscientists. Mr Graham Leaver is a full time employee of Talisman Mining Ltd and has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code for Reporting of Mineral Resources and Ore Reserves". Mr Leaver consents to the inclusion in this report of the matters based on information in the form and context in which it appears.





#### Table 1 – Drill-hole Information Summary, Delphi North Prospect

Details and co-ordinates of all relevant drill-hole collars are provided in the table below:

Hole ID	Depth	Dip	Azimuth	Grid_ID	East	North	RL	Lease ID	Hole Status
SND001	429	-60°	270 <b>°</b>	MGA94_51	290302	6856319	411	M37/1223	In Progress

#### Table 2 – Geological Information Summary, Delphi North Prospect

Down-hole Depth From (metres)	Down-hole depth To (metres)	Interval (metres)	Geology
367.6	396.8	29.2	Basalt
396.92	397.14	0.22	Massive Sulphides
397.14	397.3	0.16	Basalt
397.3	397.5	0.2	Massive / Breccia Sulphides
397.5	397.71	0.21	Basalt
397.71	398.18	0.47	Massive / Breccia Sulphides
398.18	398.58	0.4	Basalt with Sulphide Stringers
398.58	399.09	0.51	Massive / Breccia Sulphides
399.09	408.44	9.35	Basalt
408.44	408.77	0.33	Ultramafic
408.77	411.5	2.73	Basalt
411.5	413.3	1.8	Ultramafic
413.3	413.8	0.5	Basalt
413.8	413.9	0.1	Basalt with Sulphide Stringers
413.9	414	0.1	Matrix / Breccia Sulphides
414	419.5	5.5	Ultramafic with Disseminated Sulphides
419.5	420	0.5	Matrix Sulphides
420	420.3	0.3	Sedimentary Black Shale with Breccia Sulphides
420.3	420.4	0.1	Matrix Sulphides
420.4	420.5	0.1	Ultramafic





#### Appendix 1 – Sinclair Nickel Project – Planned Exploration Target Locations







### Appendix 2 – JORC Table 1

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Sampling techniques employed at the Sinclair project include saw cut Diamond Drill core (DD) samples and Reverse Circulation (RC) rock chip samples.</li> <li>Diamond core is NQ2 size and is sampled on geological intervals (0.2 m to 2 m); cut into half (NQ2) to give sample weights under 3kg. RC drill samples were collected using a riffle splitter for each metre drilled.</li> <li>Semi-quantitative hand held XRF analysis of RC chips and diamond core is carried out routinely to assist with geological logging and identification of samples to submit for quantitative laboratory analysis. No results from hand held XRF analysis are reported.</li> <li>Sampling is guided by Talisman Mining Ltd procedures and QAQC as per industry standard.</li> </ul>
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</li> </ul>	<ul> <li>The current drilling program at Sinclair is being completed using both Reverse Circulation (RC) and Diamond Drilling (DD) techniques as appropriate.</li> <li>RC drilling techniques are being employed to provide both pre-collars for diamond drill tails and to directly intersect drill targets dependant on target depth and drilling conditions. RC drilling is conducted using face sampling configurations with a nominal hole diameter of 140mm.</li> <li>The current surface Diamond Drilling (DD) on the Sinclair Project is being completed with NQ2 diameter holes using conventional wireline drilling techniques.</li> <li>All drill core is routinely orientated where possible at nominal 6m intervals using a Reflex ACT core orientation system.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>TLM diamond core and RC sample recoveries are logged and recorded in a Datashed database. Historic core recoveries have been &gt;95%.</li> <li>TLM Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers.</li> <li>For RC drilling the volume of sample material collected is routinely inspected and recorded on a metre by metre basis, and indicates approximate sample recovery. Actual sample weights are routinely recorded at the laboratory and stored in the database.</li> <li>No known relationship exists between sample recovery and grade and no sample bias is known.</li> </ul>







Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>TLM logging records lithology, mineralogy, mineralisation, alteration, structure, weathering, colour and other primary features of the rock samples and is considered to be representative across the intercepted geological units.</li> <li>Logging is both qualitative and quantitative depending on the field being logged.</li> <li>All drill holes are logged in full to end of hole.</li> <li>DD core is routinely photographed digitally.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Diamond core is NQ2 size, sampled on geological intervals (0.2 m to 2 m) and sawn in half with an Almonte core saw to give sample weights under 3kg. Core orientation is completed where possible and orientation lines guide sawing.</li> <li>RC drill samples are collected using a riffle splitter for each metre drilled. Composite samples are taken on occasion via a second sampling chute or spear sample. The majority of RC samples are dry.</li> <li>Samples will be submitted to ALS Chemex Laboratories for preparation. The sample preparation follows industry best practice where all drill samples are crushed and split to 1kg then dried, pulverized and (&gt;85%) sieved through 75 microns to produce a 1g charge for 4-acid digest with an ICP-MS or AAS finish.</li> <li>Field duplicates are routinely taken for both DD core and RC chip samples. Talisman procedures include a minimum of one duplicate per 33 samples.</li> <li>Sample size is considered appropriate for nickel mineralisation.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Drill samples are submitted to ALS Chemex Laboratories in Perth for multi-element analysis using a 1g charge with a multi-acid digest and ICP-MS or AAS finish (OG62). Analytes include AI, Fe, Mg, Mn, S, Ti, Ag, As, Co, Cr, Cu, Ni, Pb, V, Zn, Zr.</li> <li>QAQC protocols for all drill sampling involved the use of Certified Reference Material (CRM) as assay standards. The insertion ratio of CRM standards was 1 in 33 with a minimum of two per batch. OREAS and Geostats standards are selected on their grade range and mineralogical properties.</li> <li>All drill assays are required to conform to the procedural QAQC guidelines as well as routine laboratory QAQC guidelines.</li> <li>All QAQC controls and measures were routinely reviewed and reported on a monthly, quarterly and annual basis. Historic results for all standards and duplicates indicate most performing well within the two standard deviation limit.</li> <li>Lab checks (repeats) occurred at a frequency of 1 in 25. These alternate between both the pulp and crush stages.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>No significant drilling intersection assays are reported in this report.</li> <li>No twinned holes are being drilled as part of this program.</li> <li>Logging and sampling data is captured and imported using Maxwell LogChief software.</li> <li>All drillhole, sampling and assay data is stored in a SQL server (Datashed) database. Assay data is reviewed via DataShed, QAQCR and other customised software and databases. Datashed software has numerous validation checks which are completed at regular time intervals.</li> <li>Primary assay data is always kept and is not replaced by any adjusted or interpreted data.</li> </ul>



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riteria	JORC Code explanation	Commentary
ocation of ata points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down- hole surveys), trenches, mine workings and other locations</li> </ul>	• Drillholes are located by hand held with an accuracy of +/-5m. Downhole surveying is completed at regular 30m intervals using an electronic single shot survey camera.

	<ul> <li>trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>For the Sinclair Project the Coordinate system used is the Australian Geodetic Datum (AGD84). Coordinates are in the Australian Map Grid (AMG84) Zone 51.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Exploration drill spacing is currently defined by geological and geophysical target criteria and as such spacing and distribution is not sufficient to support Mineral Resources or Ore Reserves.</li> <li>No sample compositing has been applied to these exploration results.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The orientation of drilling is designed to intersect either geophysical targets or geological targets at high angle in order to best represent stratigraphy.</li> <li>No significant orientation based sampling bias is known at this time. Drill holes may not necessarily be oriented perpendicular to intersected stratigraphy or mineralisation. All reported intervals are down-hole intervals, not true widths.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples are stored at the Sinclair Nickel Mine Site prior to submission under the supervision of senior staff. Samples will be transported to ALS Perth by an accredited transport service. The assay laboratory receipts received samples against sample dispatch documents and reconciles every sample batch.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>No external audits of the sampling techniques or data have been completed</li> </ul>



## Section 2 Reporting of Exploration Results

### (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Sinclair Nickel Mine is located on tenement M37/1275.</li> <li>The Delphi Prospect area covers tenements M37/818 and M37/1223.</li> <li>The Cody Well prospect areas lie within tenement M37/816.</li> <li>The Fly Bore prospect occurs over tenements M36/444, M36/445, M36/446 and M37/735.</li> <li>The Sinclair Nickel Project is held 100% by Talisman Nickel Pty Ltd, a wholly owned subsidiary of Talisman Mining Ltd.</li> <li>The Sinclair Nickel Project was purchased from Xstrata Nickel Australasia on 4 February 2015. A \$2 million deferred payment will be triggered should production recommence within six years of completion of the settlement date.</li> <li>There are no known Native Title Claims over the Sinclair Nickel Project.</li> <li>All tenements are in good standing and there are no existing known impediments to exploration or mining.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>M37/1275 hosts the Sinclair Nickel Mine which was operated by XNAO from 2007-2013 and produced approximately 38,500 tonnes of contained nickel metal.</li> <li>The Sinclair Nickel Deposit was discovered in 2005 by Jubilee Mines NL drill testing a surface EM anomaly.</li> <li>Exploration work on the Sinclair project has included diamond, RC and Aircore drilling, ground and down-hole EM surveys, soil sampling, geological interpretation and other geophysics (magnetics, gravity).</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Sinclair Project lies within the Archean-aged Norseman-Wiluna Greenstone Belt.</li> <li>The Sinclair Nickel Deposit is an example of an Archaean-aged komatiite-hosted nickel deposit, with massive nickel-iron sulphides hosted at, or near the basal contact of high-MgO ultramafic lava channels. The ultramafic host unit is underlain by footwall basaltic rocks and overlain by sedimentary rocks.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</li> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>Refer to Table 1 of this document – Drillhole Information Summary, Delphi North Prospect.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No significant exploration results are included in this report.





Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill-hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	All intersections reported represent down-hole width of mineralisation, not true width.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Appropriate maps with scale are included within the body of the accompanying document.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• The accompanying document is considered to represent a balanced report.
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	Other exploration data collected is not considered material to this document. Other data collection will be reviewed and reported as appropriate.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>TLM is conducting a campaign of targeted Reverse Circulation (RC) and Diamond drilling (DD) to test exploration targets reported previously.</li> <li>Down-hole electromagnetic (DHEM) geophysical surveys will be used where appropriate to support the exploration drilling programme.</li> <li>Additional drilling and geophysical surveys in the future will be dependent on the outcomes of current exploration activities.</li> </ul>